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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------------|------------------|
| 09/737,129 | 12/14/2000 | Sandra Johnson Baylor | YOR9-2000-0601US1(8728-42 | 9558 |
| 22150 | 7590 | 03/07/2005 | EXAMINER | |
| F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797 | | | ALI, SYED J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2127 | |

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

| | | |
|-------------------------------|-------------------------------|--|
| Application No. 09/737,129 | Applicant(s) BAYLOR ET AL. | |
| Examiner Syed J Ali | Art Unit 2127 | |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 January 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: None.
Claim(s) objected to: None.
Claim(s) rejected: 1-33.
Claim(s) withdrawn from consideration: None.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

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Continuation of 11. does NOT place the application in condition for allowance because:

Applicant argues that Torii fails to teach "storing thread ids in a first data structure", in that the "steps of allocating and notifying thread identifiers, as disclosed in Torii, do not teach or suggest the storing of thread ids in a first data structure." Applicant adds that Torii does not show "the execution of a process to perform a context switch, or even a need to perform a context switch." Examiner respectfully disagrees. As to the former argument, Torii explicitly teaches storing thread identifiers in a data structure at col. 3 lines 55-57. Torii teaches a thread management unit allocating threads and their identifiers and notifying thread registers of those identifiers. "The thread identifier register 5 holds the thread identifiers notified by the thread management unit." As to the latter argument, Torii is directed to maintaining cache coherency for a parallel execution environment. Specifically, threads use the processor in parallel; implicit in this process is a context switch. Torii discusses maintaining cache coherency when a processor is yielded to a succeeding thread, i.e. when a context switch occurs (Abstract).

Applicant suggests that Torii "is not even remotely related to storing a plurality of entries". The claim limitation recites "storing a plurality of entries for a plurality of groups of contiguous cache lines." This limitation is clearly met by Torii, as a cache memory is composed of a plurality of contiguous cache lines (col. 4 lines 31-34), the second data structure being the cache memory, and the plurality of entries being the plurality of cache lines. The claim goes on to say that each entry may be associated with a thread identifier. While the cache coherency sequence may only control the protocol between cache memories, the sequencer facilitates the association of thread identifiers with cache lines using a comparator. Specifically, this operation is performed in an effort to maintain coherency in the cache for threads that are executed in parallel. Threads take control of the processor and relinquish it, and the cache coherency controller ensures that the cache is loaded with the information for the proper thread.

Applicant says that it "is unclear which part of Torii teaches or suggests 'mining for patterns in the plurality of entries in the second data structure to locate multiples of a same thread id that repeat.'" Torii discusses searching the cache memories to determine if a thread identifier can be found in any of the plurality of cache memories. Any instances of the thread identifier would be located during this step.

Applicant argues that "Examiner provides a detailed argument for combining Torii and Steckermeier", but "the motivation provided...is purely speculative." Regardless of the puzzling contradiction of this argument, Examiner has provided citations from both references to demonstrate how a beneficial result can be achieved through the combination. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Section 3.2.2 of Steckermeier discusses the problems with excessive migration and seeks to place a thread on the processor that will minimize migrations while maintaining locality. If a thread already has data associated with a particular cache or processor, Steckermeier seeks to ensure that the thread is scheduled on that processor.